What is claimed is:

1. An ink jet recording medium comprising a support having thereon a porous layer containing micro particles of ground silica and a hydrophilic binder which is cross-linked with ionizing radiation,
wherein the micro particles of ground silica have an average particle diameter of secondary particles of 10 - 300 nm.

2. The ink jet recording medium of claim 1, wherein the micro particles of ground silica have an average particle diameter of primary particles of 3 - 50 nm.

3. The inkjet recording medium of claim 1, wherein said micro particles of ground silica is synthesized with a gel method.

4. The inkjet recording medium of claim 2, wherein said micro particles of ground silica is synthesized with a gel method.

5. An ink jet recording medium comprising a support having thereon a porous layer containing micro particles of

silica and a hydrophilic binder which is cross-linked with ionizing radiation,

wherein a specific surface area measured with BET method of the micro particles of silica is 40 - 100 m^2/g, and

a coefficient of variation in a primary particle distribution of the micro particles of silica is not more than 0.4.

6. An ink jet recording medium comprising a support having thereon a porous layer containing micro particles of silica and a hydrophilic binder being cross-linked with ionizing radiation,

wherein the micro particles of silica are gas phase method silica, and a ratio of isolated silanol groups of the micro particles of silica is 0.5 - 2.0.

7. The ink jet recording medium of claim 6, wherein an average particle diameter of primary particles of said gas phase method silica is 5 - 50 nm, and a ratio of isolated silanol groups of the micro particles of silica is 0.5 - 1.5.

8. The ink jet recording medium of claim 1, wherein the hydrophilic binder comprises a polymer which is cross-linked

by exposing ionizing radiation to a hydrophilic polymer of a degree of polymerization of at least 500, and a main-chain of the hydrophilic polymer having a plurality of side-chains.

9. The ink jet recording medium of claim 5, wherein the hydrophilic binder comprises a polymer which is cross-linked by exposing ionizing radiation to a hydrophilic polymer of a degree of polymerization of at least 500, and a main-chain of the hydrophilic polymer having a plurality of side-chains.

10. The ink jet recording medium of claim 6, wherein the hydrophilic binder comprises a polymer which is cross-linked by exposing ionizing radiation to a hydrophilic polymer of a degree of polymerization of at least 500, and a main-chain of the hydrophilic polymer having a plurality of side-chains.

11. The ink jet recording medium of claim 8, wherein the hydrophilic polymer is an modified polyvinyl alcohol which is capable of cross-linking by ultraviolet ray, and a modification ratio of the side-chain to the main-chain is 0.01 - 4 mol%.

12. The ink jet recording medium of claim 9, wherein the hydrophilic polymer is an modified polyvinyl alcohol which is capable of cross-linking by ultraviolet ray, and a modification ratio of the side-chain to the main-chain is 0.01 - 4 mol%.

13. The ink jet recording medium of claim 10, wherein the hydrophilic polymer is an modified polyvinyl alcohol which is capable of cross-linking by ultraviolet ray, and a modification ratio of the side-chain to the main-chain is 0.01 - 4 mol%.

14. The ink jet recording medium of claim 1, wherein the support is a non water-absorptive support.

15. The ink jet recording medium of claim 5, wherein the support is a non water-absorptive support.

16. The ink jet recording medium of claim 6, wherein the support is a non water-absorptive support.

17. A method for preparing the ink jet recording medium of claim 1, comprising the steps of:

coating on the support an coating composition so as to form a porous layer containing inorganic micro particles and a hydrophilic binder which is capable of cross-linking by ultraviolet ray;

exposing ultraviolet ray to the porous layer by employing a metal halide lamp which has primary emission wavelength of 300 - 400 nm; and

drying the porous layer,

wherein the ultraviolet ray has an irradiation energy at a wavelength of 350 nm of 1 - 100 mJ/cm^2.

18. A method for preparing the ink jet recording medium of claim 5, comprising the steps of:

coating on the support an coating composition so as to form a porous layer containing inorganic micro particles and a hydrophilic binder which is capable of cross-linking by ultraviolet ray;

exposing ultraviolet ray to the porous layer by employing a metal halide lamp which has primary emission wavelength of 300 - 400 nm; and

drying the porous layer,

wherein the ultraviolet ray has an irradiation energy at a wavelength of 350 nm of 1 - 100 mJ/cm^2.

19. A method for preparing the ink jet recording medium of claim 6, comprising the steps of:

coating on the support an coating composition so as to form a porous layer containing inorganic micro particles and a hydrophilic binder which is capable of cross-linking by ultraviolet ray;

exposing ultraviolet ray to the porous layer by employing a metal halide lamp which has primary emission wavelength of 300 - 400 nm; and

drying the porous layer,

wherein the ultraviolet ray has an irradiation energy at a wavelength of 350 nm of 1 - 100 mJ/cm^2.